

CLAIMS

Sub B1

5 1. An optical module comprising:  
a mounting member having a principal surface;  
an interconnect formed on said mounting member; and  
an optical element mounted on said principal surface  
and electrically connected to said interconnect,

wherein said mounting member is an optical waveguide  
for guiding light emitted from said optical element or  
10 light admitted to said optical element.

2. The optical module as defined in claim 1,  
wherein a light-admitting aperture or light-emitting  
aperture of said optical element is disposed opposing said  
15 principal surface.

3. The optical module as defined in claim 2,  
wherein a light-reflecting member is provided on said  
optical waveguide; and

20 wherein light is transmitted between said optical  
element and said optical waveguide through said light-  
reflecting member.

Sub B2

25 4. An optical module comprising:  
an optical element for emitting or admitting light;  
and  
an optical waveguide having a principal surface, with

said optical element mounted on said principal surface, for guiding light emitted from said optical element or light admitted to said optical element.

5 5. The optical module as defined in claim 4,

wherein said optical element and said optical waveguide are fixed with an adhesive member having light transmitting characteristics interposed between said optical element and said optical waveguide in such a way that the position of emission or admission of light of said optical element opposes said optical waveguide, and are subjected to bare chip mounting.

6. The optical module as defined in claim 5,

wherein said optical waveguide has a modifying portion whereby the direction of progress of said light is changed; and

wherein said optical element is positioned to overlies said modifying portion.

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7. The optical module as defined in claim 4,

wherein a semiconductor element is further mounted on said principal surface in addition to said optical element; and

wherein said optical element and said semiconductor element are integrally sealed with a resin.

8. The optical module as defined in claim 5,  
wherein a semiconductor element is further mounted on  
said principal surface in addition to said optical element;  
and

5 wherein said optical element and said semiconductor  
element are integrally sealed with a resin.

9. The optical module as defined in claim 6,  
wherein a semiconductor element is further mounted on  
10 said principal surface in addition to said optical element;  
and

wherein said optical element and said semiconductor  
element are integrally sealed with a resin.

15 10. The optical module as defined in claim 7, wherein  
said resin has light blocking characteristics.

11. The optical module as defined in claim 8, wherein  
said resin has light blocking characteristics.

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12. The optical module as defined in claim 9, wherein  
said resin has light blocking characteristics.

13. The optical module as defined in claim 7, wherein  
25 said semiconductor element has a function of driving said  
optical element.

14. The optical module as defined in claim 8, wherein said semiconductor element has a function of driving said optical element.

5 15. The optical module as defined in claim 9, wherein said semiconductor element has a function of driving said optical element.

*claim 4*  
13. 16. The optical module as defined in ~~any of claims 4 to~~  
10 ~~15~~, wherein a circuit is laminated directly on said principal surface.

*13*  
17. An optical module comprising:  
an optical element; and

*15*  
a mounting member which has a function of an optical waveguide for guiding light emitted from said optical element or light admitted to said optical element and is electrically connected to said optical element or a semiconductor element associated with said optical element.

*20*  
18. An optical module comprising:

a mounting member having a principal surface and a lateral surface; and

an optical element mounted on said principal surface,  
*25* wherein said mounting member has a function of an optical waveguide, and an optical input/output terminal for said optical waveguide is provided on said lateral surface.